Florida's
Strategic Intermodal System
Military Access Facility Study

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Office of Policy Planning

FDOT

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Acronyms/Abbreviations

AADT	Average Annual Daily Traffic
AFB	Air Force Base
BRAC	Base Realignment and Closure
CBJTC	Camp Blanding Joint Training Center
DOD	Department of Defense
DMDC	Defense Manpower Data Center
EMS	Emergency Medical Services
eSIS	Electronic Strategic Intermodal System
FDA	Florida Defense Alliance
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
FTP	Florida Transportation Plan
GIS	Geographic Information System
LOS	Level of Service
MAF	Military Access Facility
MPO	Metropolitan Planning Organization
NAS	Naval Air Station
NHS	National Highway System
NS	Naval Station
PD&E	Project Delivery and Environment
PX	Post Exchange
RCI	Roadway Characteristics Inventory
ROW	Right of Way
SIO	Systems Implementation Office
SIS	Strategic Intermodal System
SR	State Road
STRAHNET	Strategic Highway Network
STRACNET	Strategic Rail Corridor Network
TPO	Transportation Planning Organization
TSM&O	Transportation System Management & Operations

List of Acronyms

SIS Military Access Facility Study

Chapter 1 – Strategic Intermodal System Policy

1.1 SIS Background and Purpose of This Study

The Florida Department of Transportation (FDOT) recently updated the Florida Transportation Plan (FTP) concurrently with the FDOT Strategic Intermodal System (SIS) Policy Plan adopted in March 2016.

The SIS Policy Plan (see Figure 1.1) establishes the policy framework for planning and managing Florida's Strategic Intermodal System, the high priority network of transportation facilities important to the state's economic competitiveness. The SIS Policy Plan is a primary emphasis of FTP implementation and aligns with the FTP, including three objectives to guide future SIS plans and capacity improvement investments.

Figure 1.1: SIS Policy Plan, March 2016
http://www.fdot.gov/planning/ftp/SIS-PolicyPlan.pdf

The recent SIS Policy Plan update continues the provisions for designating as SIS the facilities connecting Florida's largest and most strategic military installations to the SIS Highway and Rail corridor network. SIS designations over the last few years have added approximately 90 miles of designated Military Access Facilities (MAF) to the SIS highway network.

Section 339.64(e), Florida Statutes (F.S.) requires an assessment of the impacts of proposed improvements to Strategic Intermodal System corridors on military installations that are either located directly on the Strategic Intermodal System or located on the Strategic Highway Network (STRAHNET) or Strategic Rail Corridor Network (STRACNET).

This Study assess the effectiveness of SIS roadway connections to and from SIS-designated military installations and identifies issues needing policy considerations or criteria adjustments. This Study also identifies any multimodal needs and conditions for policy adjustments such as pedestrian or bicyclist accommodation and safety.

Chapter 1 – Strategic Intermodal System Policy

1.2 Florida Law and the Strategic Intermodal System

Florida's Governor and Legislature established the Strategic Intermodal System (SIS) in 2003 to enhance Florida's economic competitiveness by focusing state resources on the transportation facilities most critical for statewide and interregional travel. This network of high priority transportation facilities of statewide and interregional significance includes the state's largest and most significant commercial service and general aviation airports, spaceports, public seaports, intermodal freight terminals, interregional passenger terminals, urban fixed guideway transit corridors, rail corridors, waterways, and highways.

Although Florida's population and economy have changed over time, the intent of the SIS remains the same. In ***Section 339.61(1) F.S.***, the Legislature describes its intent for the SIS, stating:

> *"…the designation of a strategic intermodal system,* ***composed of facilities and services of statewide and interregional significance, will efficiently serve the mobility needs of Florida's citizens, businesses, and visitors and will help Florida become a worldwide economic leader, enhance economic prosperity and competitiveness, enrich quality of life, and reflect responsible environmental stewardship.*** *To that end, it is the intent of the Legislature that the Strategic Intermodal System* ***consist of transportation facilities that meet a strategic and essential state interest*** *and that limited resources available for the implementation of statewide and interregional transportation priorities be focused on that system."*

The SIS Policy Plan is a product of collaboration between FDOT and state, regional, and local partners to specifically address this statutory intent.

The SIS includes transportation facilities owned by FDOT, local governments, independent authorities, and the private sector. To be designated as part of the SIS, transportation facilities must meet criteria related to transportation or economic activity, as well as screening factors related to potential community and environmental impacts. SIS facilities generally are the largest and most strategic facilities in the state. The SIS also includes facilities that are emerging in importance, such as those located in fast growing areas or rural areas, and planned facilities anticipated to meet these criteria once operational. All facilities designated on the SIS are eligible for state transportation investments consistent with the policy framework defined in the SIS Policy Plan.

Chapter 1 – Strategic Intermodal System Policy

The SIS includes three types of facilities – hubs, corridors, and connectors.

- **Hubs** - Airports, spaceports, seaports, rail terminals, and other types of freight and passenger terminals moving goods or people between Florida regions or between Florida and other states and nations.
- **Corridors** - Highways, passenger and freight rail lines, urban fixed guideway transit, and waterways connecting regions within Florida or connecting Florida and other states or nations.
- **Connectors** - Highways, passenger and freight rail lines, urban fixed guideway transit, and waterways linking hubs to corridors, linking hubs to other hubs, or linking corridors to major military facilities.

Military facilities were originally recognized in the 2005 SIS Strategic Plan, acknowledging the importance of the military and the military's role in impacting surrounding communities. However, FDOT did not include military designations in the plan behind the reasoning that military installations, although strategically important, do not serve as transportation hubs. FDOT did, however, identify installations as one group of partners in SIS implementation and gave greater weight to SIS facilities in proximity to military installations in the project prioritization process.

FDOT responsibilities for military access are outlined in ***Section 339.64 (3)(b), F.S.***:

> *"The department also shall coordinate with federal, regional, and local partners the planning for the Strategic Highway Network and the Strategic Rail Corridor Network transportation facilities that either are included in the Strategic Intermodal System or that provide a direct connection between military installations and the Strategic Intermodal System. In addition, the department shall coordinate with regional and local partners to determine whether the road and other transportation infrastructure that connect military installations to the Strategic Intermodal System, the Strategic Highway Network, or the Strategic Rail Corridor is regionally significant and should be included in the Strategic Intermodal System Plan."*

The 2009 Florida Legislature also established the Florida Defense Support Task Force, further demonstrating the state's commitment to improve the coordination of community and state support for military installations and operations throughout Florida. In consideration of the above statute and the creation of the Task Force, FDOT and its partners continue to address military issues as part of the SIS Policy Plan update process.

Chapter 1 – Strategic Intermodal System Policy

1.3 The 2015 SIS Policy Plan

In 2015 the SIS Policy Plan update took place for the first time in conjunction with the update of the Florida Transportation Plan, Florida's statewide long range transportation plan. An FTP/SIS Steering Committee comprised of representatives from key partner groups and all modes of transportation was responsible for guidance in updating the SIS Policy Plan. The integrated update process ensured the SIS Policy Plan directly aligned with the goals and objectives of the Florida Transportation Plan.

From the beginning of the process, the Committee understood that military transportation needs are of regional, statewide, and national strategic significance. They recognized high levels of military personnel in Florida impacts the need for transportation and other infrastructure improvements; specifically recognizing how Department of Defense (DOD) decisions may impact SIS Highway Corridors in proximity to some installations as well as impact the highway routes connecting the SIS to military facilities.

By designating roadway connectors that connect military installations to the SIS, FDOT and its partners are in a position to address issues and SIS-installation connection deficiencies. For these reasons, the Committee recognized efficient access to and from military installations help Florida continue to be home to one of the nation's largest defense and homeland security industries.

Chapter 2 –SIS Criteria Analysis

2.1 SIS Military Access Facility Criteria and Thresholds

In 2010, Military Access Facilities were established as a SIS intermodal connector designation (highways, rail lines, waterways, and other exclusive use facilities) linking key strategic military installations to the closest and most appropriate SIS corridor.

MAF routes fundamentally differ from intermodal connectors in that connectors link two facilities that are both on the SIS network. FDOT distinguishes that SIS designation applies to the transportation infrastructure connecting the SIS to eligible installations. Military installations themselves are not designated as SIS facilities even though the designation criteria for the MAF is based partly on installation-related measures. MAF routes do not directly connect military installations to each other, but enable installations to connect to the entire SIS network via SIS and Emerging SIS Corridors.

New SIS criteria and thresholds were created for MAF and adopted by FDOT in January 2010. The purpose of these connectors is to link Florida's strategic military installations to SIS highway or rail corridors.

The military access facility is distinct from other SIS connectors because they serve military installations without the installations themselves being designated as SIS hubs. The criteria and thresholds for these connectors were developed as part of the 2010 SIS Strategic Plan. Figure 2.1 describes the criteria and thresholds for connectors linking military installations to SIS corridors.

Chapter 2 –SIS Criteria Analysis

Roadways or rail lines that provides military installations with access to the Strategic Intermodal System
AND
Criteria (must meet one of the following): • Designate as "Military Access Facilities" Strategic Highway Network (STRAHNET) roads and Strategic Rail Corridor Network (STRACNET) rail lines serving main entrance(s) of U.S. Department of Defense military installations with at least 0.25 percent of total U.S. military and civilian personnel. • Designate as "Military Access Facilities" Strategic Highway Network (STRAHNET) roads and Strategic Rail Corridor Network (STRACNET) rail lines serving main entrance(s) of military installations designated as the Governor's Continuity of Government Site(s).

Figure 2.1: SIS Adopted Criteria and Thresholds for Military Installation-to-Corridor Connectors, Adopted January 2010

The adopted SIS criteria considers military and civilian personnel at each installation, as well as the access facilities designated as part of the STRAHNET and/or the Strategic Rail Corridor Network (STRACNET)[1].

In developing the initial criteria, FDOT along with military partners, addressed the differences between the fundamental characteristics of military installations and other SIS hubs. SIS hubs were designated using transportation activity measures (such as airport enplanements, seaport tonnage, or highway Annual Average Daily Traffic (AADT)). As a result, SIS criteria and thresholds are based on existing Department of Defense (DOD) STRAHNET designation as well as the number of military and/or civilian personnel attached to each installation.

An excellent source for civilian and military personnel is the Defense Manpower Data Center that catalogues military personnel and other data for the DOD. The Defense Manpower Data Center is the official source for determining military installation personnel criteria.

[1] The STRAHNET is a subsystem of the National Highway System (NHS) consisting of highways which are important to the US strategic defense policy and which provide defense access, continuity, and emergency capabilities.

Chapter 2 –SIS Criteria Analysis

2.2 Department of Defense STRAHNET Designation

A key SIS military access facility requirement for roadways or rail lines is that it must be designated as part of the STRAHNET or the STRACNET. The STRAHNET includes highways which are important to the United States strategic defense policy. These highways provide defense access, continuity, and emergency capabilities for the movement of personnel, materials, and equipment in both peace time and war time. STRAHNET and the Connectors define the total minimum defense public highway network needed to support a defense emergency. The MAF Study Team confirmed with military planning staff that rail corridors throughout the state are not currently utilized by any of the SIS-designated military installations.

The STRAHNET is a Department of Defense designation given to roads that provide *"defense access, continuity, and emergency capabilities for movements of personnel and equipment in both peace and war."* STRAHNET includes routes (for long-distance travel) and connectors (to connect individual installations to the routes).

STRAHNET is a system of public highways that is a key component in United States strategic policy. It provides defense access, continuity, and emergency capabilities for movements of personnel and equipment in both peace and war. Nationally, it is 61,044 miles, including the 45,376-mile Interstate System and 15,668 miles of other important public highways.

STRAHNET Connectors are additional highway routes linking over 200 important military installations and ports to STRAHNET. These routes are typically used when moving personnel and equipment during a mobilization or deployment. Generally, these routes end at the installation gate. The STRAHNET Connector is usually the most direct and highest functional class roadway.

As the DOD designated agent for public highway matters, the Military Surface Deployment and Distribution Command Transportation Engineering Agency is the advocate for STRAHNET and STRAHNET Connectors. STRAHNET and the Connector routes are identified in coordination with the Federal Highway Administration (FHWA), the State transportation departments, the military services and installations, and the ports. Together, the STRAHNET and its Connectors define the total minimum public highway network needed to support a defense emergency.

Chapter 2 –SIS Criteria Analysis

Priorities are assigned by the DOD to the military installations. These priorities represent the relative importance of the facilities' military missions. Priorities are based on input from the respective military services and the overall DOD mission. Additionally, FHWA has added primary STRAHNET connector routes to the NHS for Priority 1 and 2 installations and ports. As part of the National Highway System (NHS), the FHWA maintains bridge capability, pavement condition, and congestion as specific issues to be addressed[2]. Figure 2.2 is Florida's current STRAHNET Atlas depicting the full STRAHNET installations, Interstates, roadways, and connectors.

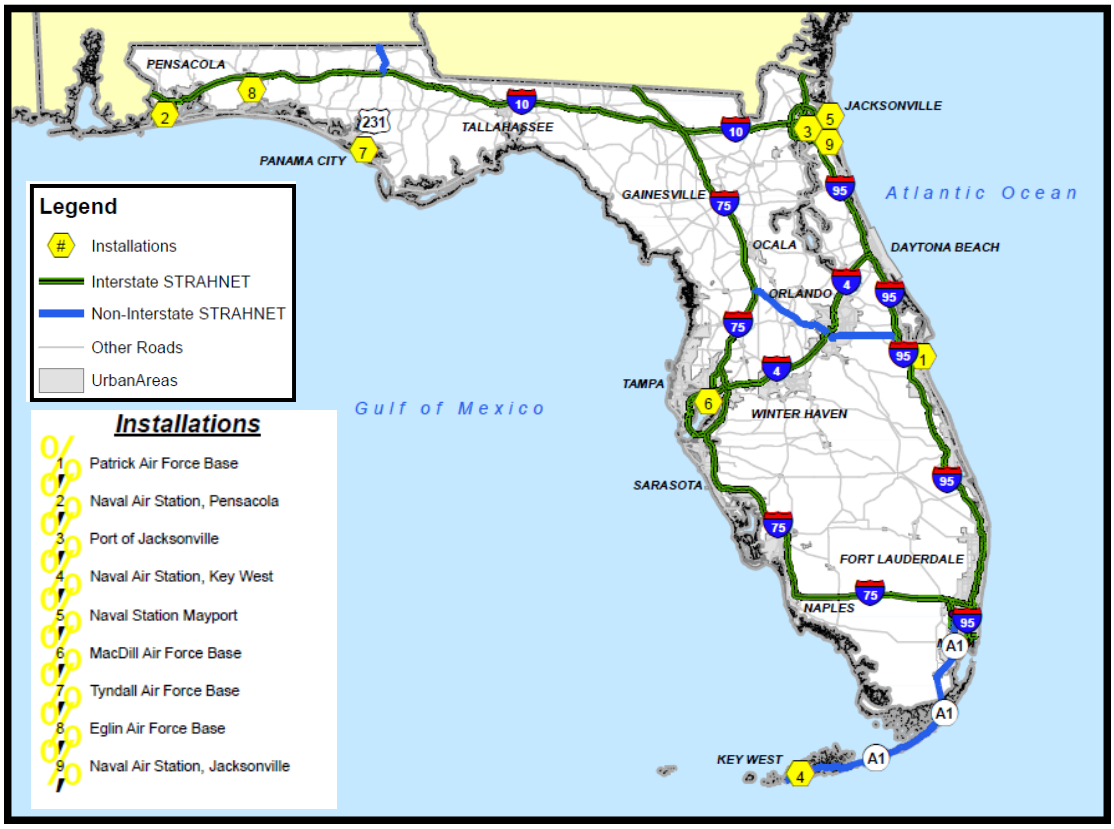

Figure 2.2: Florida's STRAHNET Atlas - Military Installations
Source: Military Deployment and Surface Command, May 2017

[2] Source: DOD Web page at https://www.tea.army.mil/pubs/res/dod/pmd/STRAHNET.htm

Chapter 2 –SIS Criteria Analysis

In addition to the strategic requirement of these public highways, traffic safety issues associated with highways providing access to these installations are addressed by FHWA. FHWA is focusing on reducing the number of fatalities and injury and personal property crashes affecting military personnel. Therefore, FDOT and FHWA Divisions recognize the need to identify traffic safety issues on these important roadways and prioritize the appropriate corrective measures.

Based on an FDOT analysis in 2009, DOD installation personnel data were analyzed from the Annual DOD Base Structure Report. It was determined that a threshold of 5,500 personnel would warrant an installation designated a STRAHNET Connector.

In addition, military annual commercial shipping data was analyzed for both the number of freight trips generated and the amount of tonnage shipped or received. The following thresholds were found to warrant a freight STRAHNET Connector:

- 9,000 commercial shipping tons
- 2,000 commercial shipping trips

These DOD STRAHNET Connector criteria and thresholds are consistent with the current SIS criteria for MAFs.

Chapter 2 –SIS Criteria Analysis

2.3 SIS Civilian and Military Personnel Criteria

Figure 2.3 shows the number of military and civilian personnel for Florida's largest military installations. Personnel figures are indicative of the transportation and mobility needs for the installation. The 0.25 percent (4,664) total national military personnel figure was established as the SIS threshold for MAF designation eligibility[3].

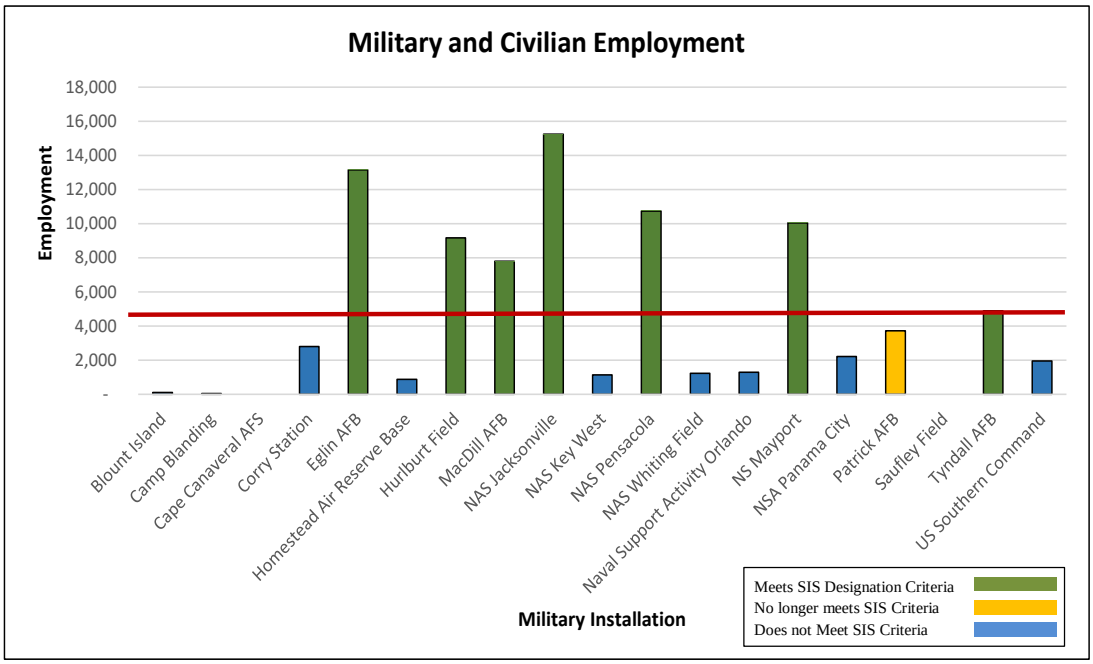

Figure 2.3: Florida Military and Civilian Personnel
Source: Defense Manpower Data Center (DMDC), October, 2016

Three military installations are located directly on an existing SIS Highway or SIS Connector:

1. Blount Island Command,
2. Cape Canaveral Air Force Station, and
3. Eglin Air Force Base (AFB).

[3] During this study period (November 2016), the threshold needed for eligibility was 4,664 personnel (Source: Defense Manpower Data Center).

Chapter 2 –SIS Criteria Analysis

Blount Island shares a roadway connector with Port of Jacksonville and Cape Canaveral AFB shares a roadway connector with Port Canaveral. Eglin AFB is geographically large, it parallels I-10, SR 87, SR 85 and US 331; which are all SIS designated roadways.

Eight military bases with SIS-designated MAF roadways connect SIS Highways to each installation at the main gate. The installations with SIS designated MAF roadways are:

- Camp Blanding
- Hurlburt Field
- MacDill Air Force Base
- Naval Air Station Jacksonville
- Naval Station Mayport
- Patrick Air Force Base
- Naval Air Station Pensacola
- Tyndall Air Force Base

For more information on the SIS MAFs, please see *Appendix A: SIS Military Installation Profiles*.

2.4 Governor's Continuity of Government Site and Statewide Significance

SIS facility designation criteria is also based on any military bases identified by the Florida Legislature as a designated location for the State of Florida Executive Branch Continuity of Government Site.[4]

Florida Code Sections 22.01-22.10 states that whenever, due to an emergency resulting from the effects of enemy attack, or the anticipated effects of a threatened enemy attack, it becomes imprudent, inexpedient, or impossible to conduct the affairs of state government at the normal location of the seat thereof in the City of Tallahassee, Leon County, the Governor shall, as often as the exigencies of the situation require, by proclamation, declare an emergency temporary location. This temporary location will serve as the seat of government as may be necessary for an orderly transition of the affairs of state government. Such emergency temporary location will remain as the seat of government until the Legislature, by law, establishes a new location, or until the emergency is declared to be ended by the Governor and the seat of government is returned to its normal location. Currently Camp Blanding is designated as the only continuity of governance location for the state of Florida in the event of an emergency.

[4] Florida Administrative Code Sections 22.01-22.10

Chapter 2 –SIS Criteria Analysis

Figure 2.4 shows the locations of Florida's SIS designated MAFs, major SIS Highways and STRAHNET Connectors.

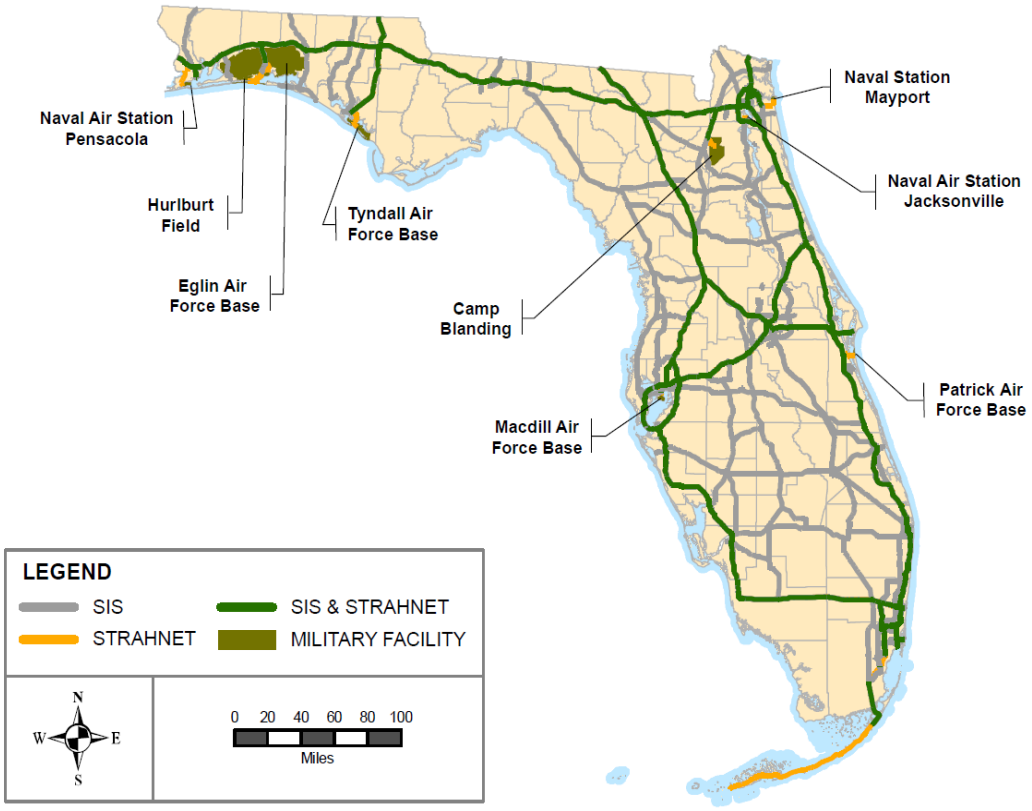

Figure 2.4: Florida's SIS Designated Military Access Facilities
Source: FDOT Systems Implementation Office

2.5 Proposed SIS Criteria/Thresholds Data Change

The current SIS criteria and thresholds implemented during the 2010 SIS Strategic Plan update effectively measure and reflect the statewide strategic importance of the military installations and the need for support from a statewide transportation perspective. All military installations with SIS-designated MAFs are at or above the .25 percent of national civilian and military personnel total.

Chapter 2 –SIS Criteria Analysis

FDOT is considering a change in personnel criteria from the current "percent national total" to "percent Florida totals." This change is predicated upon the need to measure the strategic nature of Florida's military installations by using Florida's military employment numbers. It has been recognized that measuring the strategic nature of Florida's military installations from a national perspective does not fully reflect the importance of these installations to Florida's economy or the need for statewide support for the infrastructure surrounding these installations. Considerations such as mission shifts, re-deployments and operational changes in other parts of the country should not be a significant factor in determining the strategic nature of military installations within Florida.

Analyses were done evaluating a change from "percent national totals" to "percent Florida totals" for SIS facility designation criteria. Results indicate no significant impact on eligibility for any of the 20 large Florida military installations. The SIS MAFs would remain on the SIS with the remaining facilities falling short of the civilian and military personnel criteria.

With these considerations, the proposed personnel criteria for SIS designation would be based on the percent of Florida civilian and military personnel at each of Florida's military installations and bases. Table 2.1 reflects the data analysis and suggested personnel criteria for SIS designation eligibility based on the current "percent national totals" and also "percent Florida totals."

Chapter 2 –SIS Criteria Analysis

Table 2.1: – Percent Employment Criteria Impact Analysis

				Percent Employment	
				Florida Total 4%	National Total 0.25%
Installation	**Active Duty**	**Civilians**	**Total**	3,458	4,664
Blount Island	107		107	0.12%	0.01%
Camp Blanding*		50	50	0.06%	0.00%
Corry Station	2,625	178	2,803	3.24%	0.15%
Eglin AFB	7,850	5,303	13,153	15.21%	0.70%
Homestead Air Reserve Base	401	480	881	1.02%	0.05%
Hurlburt Field	7,682	1,489	9,171	10.61%	0.49%
MacDill AFB	5,537	2,258	7,795	9.02%	0.42%
NAS Jacksonville	5,781	9,460	15,241	17.63%	0.82%
NAS Key West	776	370	1,146	1.33%	0.06%
NAS Pensacola	8,266	2,467	10,733	12.41%	0.58%
NAS Whiting Field	1,026	213	1,239	1.43%	0.07%
Naval Support Activity Orlando	154	1,135	1,289	1.49%	0.07%
NS Mayport	9,341	712	10,053	11.63%	0.54%
NSA Panama City	584	1,641	2,225	2.57%	0.12%
Patrick AFB	1,708	2,016	3,724	4.31%	0.20%
Tyndall AFB	3,334	1,558	4,892	5.66%	0.26%
US Southern Command	1,345	613	1,958	2.26%	0.10%
Florida Total	**56,517**	**29,943**	**86,460**		
National Total	**1,159,382**	**706328**	**1,865,710**		

Green shading reflects SIS designated MAF facility

Source: Defense Manpower Data Center (DMDC), October 2016

*Camp Blanding is SIS-designated based on meeting Florida's Continuity of Government Site criteria, not by the civilian and military personnel numbers.

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Figure 2.5 reflects how SIS designation eligibility will change based on a suggested "4 percent Florida Civilian and Military Employment" threshold for the military installation employment measurement. Only Patrick AFB is impacted by a change to a "4 percent Florida Totals" threshold. Using this new threshold, Patrick AFB would continue to be SIS-eligible with no other impacts or changes in MAF eligibility.

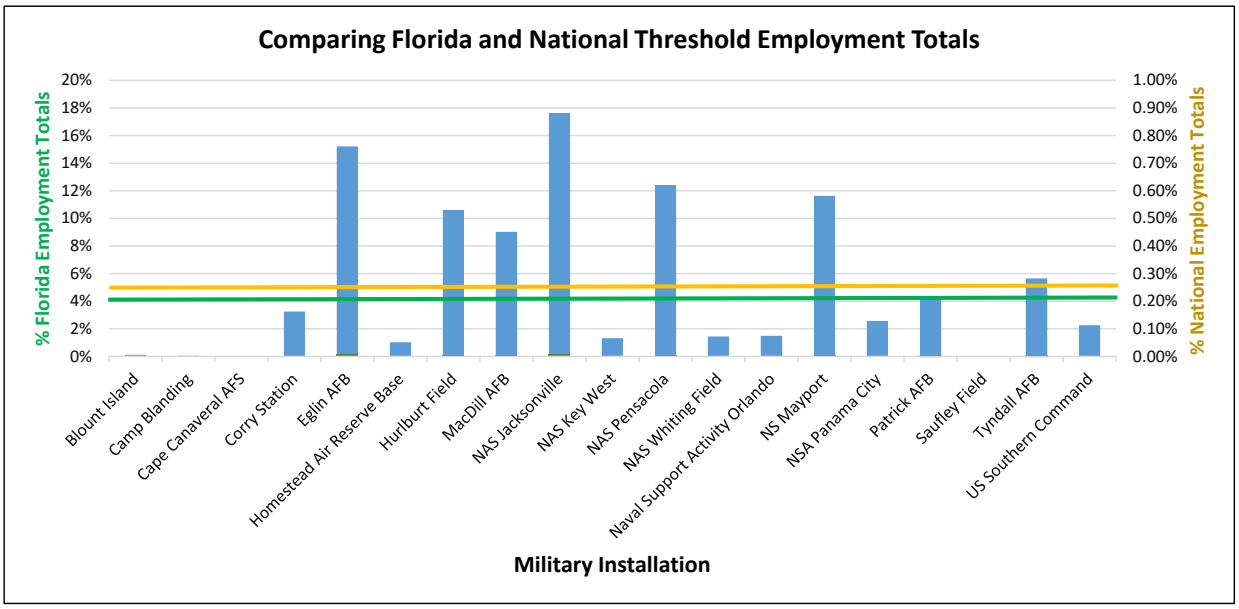

Figure 2.5: SIS Criteria Comparing "% Florida Employment Totals" and "% National Employment Totals"
Source: FDOT, Office of Policy Planning, October 2016

Another proposed SIS criteria change is to remove the requirement for the state's continuity of government site (Camp Blanding) roadway connector to be STRAHNET designated. The current roadway connector to Camp Blanding does not currently meet the STRAHNET designation personnel numbers nor is it expected to in the near future. Camp Blanding has few active civilian or military personnel at the installation. By not meeting STRAHNET criteria, this MAF would be at risk of de-designation as SIS even though Camp Blanding continues to be strategic to the state serving as the continuity of government site and the state's central command center in times of statewide emergencies.

Chapter 2 –SIS Criteria Analysis

2.6 Key Findings and Recommendations

MAF Rail Corridors
The MAF Study Team confirmed with military planning staff that rail corridors throughout the state are not currently utilized by any of the SIS-designated military installations.

Continuity of Government Requirement
The current roadway connector to Camp Blanding does not currently meet the STRAHNET designation personnel numbers nor is it expected to in the near future. The DOD may de-designate the Camp Blanding MAF as a STRAHNET roadway and Connector. By not meeting STRAHNET criteria, this MAF would be de-designated as SIS. Regardless of its STRAHNET designation, Camp Blanding continues to be strategic to the state serving as the continuity of government site and the state's central command center in times of statewide emergencies.

1. Recommendation
It is recommended FDOT remove the current SIS criteria requiring STRAHNET designation for roadways serving the main entrance of military installations designated as the Governor's Continuity of Government Site.

Civilian /Military Personnel Requirement
The current personnel criteria measurement remains adequate in determining which military installations (and their connections) are statewide essential from an infrastructure support perspective. Changing the personnel criteria measurement from "percent national total" to "percent Florida total" will have no significant impact on current or future designations.

2. Recommendation
It is recommended the Defense Manpower Data Center database continue to be the official source for determining SIS facility designation criteria.

3. Recommendation
It is recommended that consideration be made to change from "percent national total" to "percent Florida total" in determining which military installations (and their connections) are statewide essential. A suggested threshold would be "4 percent of Florida Total."

Chapter 3 – Installation/Community Infrastructure

Good communication and coordination was found with each of the eight military installation planning staff and the region's Transportation Planning Organization (TPO). There was clear indication that the military installation is engaged with their respective TPO and the transportation and project planning process.

Additionally, the collaboration and coordination of SIS designation requests and project management with FDOT district offices is found to be equally effective. There have been several SIS designation changes and projects developed over the last couple years improving capacity and connectivity at these strategic military installations.

3.1 Evaluation of SIS Support For Key Military Installations

SIS supported military facilities are the largest in the state geographically and by personnel and are vital to the surrounding community with roadway infrastructure also serving residential, retail, commercial, and industrial needs. A balance is often struck between the need for efficient movement of people and freight for the military installation and the need to move people and goods in the community surrounding the military base.

With input from the military base transportation planners and the Northwest Florida, North Florida, and Space Coast TPO representatives on these key focus areas, the characteristics and effectiveness of the SIS designated roadway access facility to each of the SIS-designated military installations was evaluated.

Transportation planners from each of the SIS-designated military installations and their respective regional Transportation Planning Organizations were interviewed with a series of questions asked to evaluate the effectiveness of their MAFs and to guide discussions. These questions also provided a framework for gathering additional information about their installation's mission, operations, connectivity needs, and roadway characteristics.

Chapter 3 – Installation/Community Infrastructure

Key areas of focus during the military installation site visits and interviews were:

- Military mission/operations
- MAF roadway use/community use
- Roadway characteristics
- MAF activity data (i.e. AADT, pedestrians, bicyclists, trucks, transit)
- Safety/Security concerns
- Travel choices to/from facility
- Freight access conditions/needs (queuing, inspection and connectivity)
- Emergency services (EMS)

In addition to the interview responses and discussions, the MAF Study team reviewed information in FDOT Roadway Characteristics inventory, traffic counts, and safety crash data. Current and planned roadway maintenance and improvement projects were also discussed and have been assessed for the SIS-designated MAFs.

Table 3.1 lists current and planned SIS capacity improvement projects that will contribute to better alignment, connectivity and throughput of the MAF roadway connector to the most appropriate SIS highway corridor. These projects improve MAF throughput by either adding lanes or improving intersections impacting the MAF connection to the military base.

Table 3.1: FDOT Capacity Projects Impacting SIS–Designated MAFs

Military Installation	Year	Cost	Phase	Facility	Description
NAS Jacksonville	2015-2017	$2,445,562	Design	I-295 @ US 17	Modify Interchange
NAS Jacksonville	2016, 2017	$839,989	PD&E, Construction	I-295 N/B @ US 17	Modify Interchange
NAS Jacksonville	2023-2024	$2,050,000	PD&E	I-295 from SR 13 to I-95 North	PD&E
NAS Jacksonville	2010-2015	$16,860,024	Design, ROW, Construction	US 17 from Wells Road to Duval County Line	Add Turn Lanes
Hurlburt Field	2015-2017	$651,129	Design, Construction	US 98 from Santa Rosa County Line to SR 189/Beal Pkwy	Add Turn Lane
Hurlburt Field	2016-2017	$1,823,041	PD&E	US 98 from Santa Rosa County Line to SR 393	Design
Hurlburt Field	2015-2022	$218,836,914	PD&E, Design, ROW, Construction	US 98 Brooks Bridge	PD&E
Tyndall AFB	2015-2017	$8,693,312	PD&E	US 231 from US 98 to SR 20	PD&E
Canaveral AFB	2016-2026	$20,391,216	Environmental, Design, ROW	SR 528 from SR 3/Courtenay Pkwy to Port Canaveral	Add 2 lanes
Canaveral AFB	2016-2027	$22,785,978	Environmental, Design, ROW	SR 528 from SR 524/Industry to SR 3/Courtenay Pkwy	Add 2 lanes

Source: FDOT Systems Implementation Office, November 2016

Chapter 3 – Installation/Community Infrastructure

3.2 MAF Overview

Each of the SIS military access facilities evaluated in this study have unique characteristics, military/community value, and effectiveness. These roadways support the efficient movement of people and goods to and from the military installation and the closest SIS highway corridor. During the interviews there were no expressed need, by the military, to utilize rail corridors for use in moving people or freight in or out of the military installations.

For the SIS-designated military installations there is a mix of roadway segments that are Interstates, state roads and those county owned. All SIS facilities (including MAFs) are eligible for SIS state transportation funding, regardless of mode or ownership, with state funding covering varying shares of the project costs. When county-owned roadways are designated SIS there is an added local benefit in that these roadways are eligible for statewide managed FDOT Work Program capacity improvements and support. SIS hub connectors and military access facilities are the only two ways that non-state owned roadway facilities can be included in the FDOT Work Program. Additionally, SIS designated facilities also benefit by receiving priority statewide managed funds in the FDOT Work Program.

A list of identified preservation (resurfacing/striping) and capacity improvement projects is in *Appendix C: Roadway Projects Impacting Florida's SIS Military Installations* of this study document.

3.3 MAF Roadway Characteristics

The SIS-designated MAF roadway characteristics, throughout the state, vary based on population density, geographic size and location of closest SIS highway corridor. Generally, military installations located in rural areas tend to have roadway connectors with two 11'-12' lanes with higher posted speeds and segmented bicycle/pedestrian accommodations. Those military installations surrounded by more urban dense populations and retail/commercial activity have wider lanes and more consistent bicyclist/pedestrian accommodation along the full length of the connector.

During the military site interviews it was expressed that there is an increase in demand for more multimodal and transportation choices from the TPOs. Specifically there was an interest in mobility choices on MAFs to better serve bicyclists, pedestrians, transit riders, and freight handlers. The number of transportation choices one has tends to be based on community resources, needs and right-of-way availability.

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Roadway access management and characteristics (see Table 3.2) were important to several of the military installations, particularly in FDOT Districts 2 and 3. Controlled access, median treatments and lane widths determine, to a large extent, how well traffic on these roadways maintain "free flow" speeds. Access management class of roadway is determined based on several factors and many vary by location. MAF roadways vary from *Controlled access with restrictive medians, land not extensively developed* (class 3) through *Controlled Access, land developed to maximum extent, and limited potential for widening* access (class 7).

Table 3.2: MAF Roadway Characteristics - 2016

MAF	AADT	# Lanes	Lane Width	% Truck	Access Management Class[5]	Sidewalk	Bike Lane	Posted Speed
Camp Blanding	3,180	2	11'-12'	N/A	4, 3	Minimal	None	55
Eglin AFB	20,150	4	12'-13'	3%-5%	3, 5	Partial	Minimal	30-35
Hurlburt Field	34,150	4-6	11'-12'	4%-4.5%	6, 5, 3	Partial	Minimal	45
MacDill AFB	28,500	4	12'	3.5%-4.5%	7	Full/Partial	Minimal	45-55
NAS Jacksonville	39,500	6	12'	N/A	3	None	None	45
NS Mayport	21,670	4	12'	2.5%	3 and 6	Partial	None	45-55
NAS Pensacola	18,930	2-4	12'	5%-7%	3	Partial	Minimal	45-55
Patrick AFB	34,400	4	12'	2.7%	6 (Pineda)	Partial	None	45
Tyndall AFB	24,100	2	11'-12'	4.5%-7.5%	N/A	None	None	45

Source: FDOT Roadway Characteristics Inventory Database

3.4 Surrounding Land Use

Many MAFs serve the needs of the military base and the surrounding community. Changes in base mission or operations not only have potential impact on the roadway connector but potentially impacts the mobility needs of the surrounding community as well. One of the greatest concerns of military installations and their local defense communities is the changing of existing land use for areas near the installations[6].

[5] Access Management Classes are: **Class 1** – Limited Access / Freeway; **Class 2** – Highly Controlled Access with service roads; **Class 3** – Controlled Access with restrictive medians, land not extensively developed; **Class 4** – Controlled Access with non-restrictive medians, land not extensively developed; **Class 5** – Controlled Access with restrictive medians, land extensively developed; **Class 6** – Controlled Access with non-restrictive medians, land extensively developed; **Class 7** – Controlled Access, land developed to maximum extent, limited potential for widening

[6] Florida Defense Alliance. *Florida Programs to Mitigate Encroachment to Military Installations*. July, 2017

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Incompatible development of land close to military installations may lead to a diminished capability and capacity of such an installation to carry out its mission. It can also adversely impact public safety by increasing volume of roadway users and intersections within the right-of-way. It is essential that military installations manage and mitigate encroachment of their property boundaries so their mission and operations, ranges and flight corridors are not threatened by the neighboring community growth and developments.

It's desirable for local governments and military installations work together to encourage compatible land use and development to help prevent incompatible encroachment and facilitate the continued presence of the major military installations in their region. To sustain or improve both the community's quality of life and the ability of the military to perform its mission, local government and military officials must continue to effectively communicate and coordinate land use planning efforts. A balance must be struck between the growth of surrounding communities and the continued ability of military installations to effectively train and accomplish the military mission.

Florida mitigates encroachment to military installations through laws designed to set aside conservation lands, regulate land use, and notify military authorities of possible incompatible development. Florida Statutes provide for coordination and communication between local governments and federal military installations to prevent incompatible development adjacent to the base.

Section 163.3175*, F.S.** addresses compatibility of land use development and the exchange of information between local governments and military installations. ***Section 163.3175(7), F.S. requires a representative of a military installation acting on behalf of all military installations within that jurisdiction to serve ex officio as a nonvoting member of the county's or affected local government's land planning or zoning board. Every military installation interviewed has acknowledged that they have good representation with their respective TPO and their planning process.

3.5 Safety

Roadway safety data were collected for each of the SIS MAFs and analyzed by roadway segment, severity and type of crash (see Table 3.3). Crashes on these MAF roadways primarily occurred at intersections and were predominately rear-end collisions and left-hand turns. Military installations in urbanized areas were shown to have higher incidents of pedestrian and bicyclist fatal and injury crashes generally reflecting a higher number of AADT and pedestrian exposure.

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MAFs with segmented roadways and multiple owners generally had gaps in bicyclist and/or pedestrian accommodations. Bicycle and pedestrian accommodations are generally determined by Right of Way availability and roadway improvements completed.

Table 3.3: Safety Data and Roadway Attributes

MAF	AADT	# Lanes	Total Crashes	Injury Crashes	Fatal Crashes	Sidewalk	Bike Lane	Posted Speed
Camp Blanding	3,180	2	28	14	0	Minimal	None	55
Eglin AFB	20,150	4	88	32	5	Partial	Minimal	30-35
Hurlburt Field	34,150	4-6	1,192*	342	12*	Partial	Minimal	45
MacDill AFB	28,500	4	253	133	2	Full/Partial	Minimal	45-55
NAS Jacksonville	39,500	6	299	106	1	None	None	45
NS Mayport	21,670	4	664	221	3	Partial	None	45-55
NAS Pensacola	18,930	2-4	720	287	11	Partial	Minimal	45-55
Patrick AFB	34,400	4	293	120	1	Partial	None	45
Tyndall AFB	24,100	2	885	222	3	None	None	45

Source: FDOT Roadway Characteristics Database, Signal4 Crash Database, 2015 data
*Crash data is prior to US98 flyover construction

3.6 Key Findings and Recommendations

Good military representation with local governments
Good communication and coordination was found with each of the SIS military installation's planning staff and the region's TPOs. There was clear indication that each military installation is engaged with their respective TPO and the transportation and project planning process. Additionally, the collaboration and coordination of projects with FDOT district offices is found to be equally effective.

Transportation Choice
There is an increasing demand for more multimodal and transportation choices from transportation agencies that represent the regional and local communities. Specifically there was an interest in mobility choices to better serve bicyclists, pedestrians, transit riders and freight handlers.

Safety
Safety is a concern on several MAFs with a high number of crashes occurring mostly at intersections along the MAF roadway. These intersection points are key to improving crashes, especially bicyclists and pedestrians sharing the MAF route.

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Freight Access

Freight access and throughput is a concern at two SIS military bases, MacDIll AFB and NS Mayport. With the required truck security screening process and the number of trucks accessing these military bases, better truck queuing was noted as a concern by military base planners.

FDOT Data, Mapping and Documentation

Some inconsistencies have been found in documentation and maps supporting SIS designations. FDOT Roadway Characteristics Inventory Database (RCI) should be evaluated and reconciled with databases such as the FDOT eSIS GIS database, the SIO SIS Atlas and other mapping applications. This evaluation will ensure the SIO and Office of Work Program have the most accurate resources to determine project eligibility.

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Chapter 4 – Military Installation Connectivity

Based on interviews and discussions with military installations, regional and local transportation planners and data obtained, all SIS designated MAFs are effective in supporting the military installation operations and their current need for efficient movement of people and freight.

However, there are many infrastructure and mobility issues raised and discussed that show potential or future need in moving people and freight into and from Florida's largest military installations. The first part of this chapter outlines the key findings as discussed with the military transportation and installation planners, TPOs, FDOT staff and others that were broadly expressed across each of the facilities. The second part of this section outlines key findings, issues and needs specifically expressed for each military facility.

4.1 General Facility Findings

Main Gate Queuing and Congestion

Capacity issues at the main gates were mentioned at every installation site visit. Personnel queuing concerns at peak hours was most common. Factors contributing to the queuing issues are:

- Number of guard shacks and personnel to process installation entry,
- Queuing lane length impacting intersection operations,
- Only one entry point, and
- Several installations expressed a need for more efficient freight entry queuing.

Military/Civilian Personnel

Several military base planners indicated they had a significant number of visitors to their base. Bases with hospitals, museums, golf courses and other facilities attract large groups of visitors beyond civilian and military personnel. SIS criteria estimating the number of personnel entering/exiting military installations may not be reflecting a true traffic flow entering and exiting these installations. There were suggestions from a few military base planners that "contracted employees" should be included along with the civilian/military personnel currently considered in the SIS designation criteria.

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Additionally, some installation planners indicated those bases with visitors to on-site hospitals and base exchanges should be considered in criteria calculations as those people utilize and access the base regularly. Specifically, they suggested FDOT consider the following types of employees/visitors for inclusion in the criteria numbers:

- Contracted Employees,
- Families living on-base residential housing,
- Retirees, and
- Others utilizing on-base amenities such as: golf courses, PX, and hospitals.

4.2 Key Facility Findings and Comments

The MAF Study Team visited the SIS military installations to assess the effectiveness of SIS support for their primary roadway connector and to identify any issues or needs that may impact their efficient connectivity. The interviews included military base planners, FDOT district staff, TPO and local government representatives to get input and details from all perspectives on current SIS criteria, access needs, any current or developing mobility issues, and how well the regional and local planning staffs work together.

In all site visit interviews it was clearly indicated that coordination and collaboration of TPO, FDOT district offices and military installation planning staff was exemplary. Some TPOs had military representation on the TPO Boards; while others were part of the regular meetings and transportation planning processes.

The following reflects key discussion points and identified issues expressed during the military installation site visit interviews from February – April 2017.

<u>Eglin AFB</u>

- Traffic congestion continues on Highway 85, 98 & Santa Rosa Island west and east; especially in peak hour.
- Other potential roadways for SIS Designation if Hurlburt Field moves their SIS MAF:
    - Highway 293 (Bypass), and
    - Highway 189.

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Hurlburt Field

- Hurlburt Field currently shares a MAF with Eglin AFB. Hurlburt Field would like to designate Highway 98 west to SR 87 or I-110 as a separate SIS MAF to relieve traffic congestion at main gate.
- Noted improvements but "not perfection" in US 98 fly-over at installation main gate.
- Interest was expressed for MAF bypass west around base to North side of installation moving using Martin Luther King Parkway.
- Congestion issues noted from main gate on SR 85 to I-10.
- Other Roads possible for SIS Designation:
    - Martin Luther King. Jr. Blvd, and
    - Highway 189.

NAS Pensacola

- Signage Improvements were an item of interest further away from main gate away from installation. Project being funded by TPO/MPO the City and County.
- NAD noted importance of museum and installation significance as it relates to "aviation schools command & training."
- Interest expressed in a future Park and Ride lot for NAS Pensacola (currently using the ECAT system).

NAS Jacksonville

- Interest in SR 134 SIS designation as an alternative freight entrance.
- SR 17 future traffic could become problematic for runway Clear Zones and Accident Potential Zones.
- SR 17 is key to NAS Jacksonville, projects for funding and designation at District level were huge for the installation.
- Current MAF congestion relieved by current project but may need to be addressed in the future.

NS Mayport

- Waterways noted as shipping is critical to the installation. Army Corps of Engineers dredging project is allowing more traffic closer to the Mayport Basin.
- Level of service is a concern to Mayport transportation planners and TPO.
- Natural environmental factors are becoming a concern; specifically rising sea tides and coastal erosion.
- NS Mayport is interested in a ferry service and possible termination points on both ends are being looked at.

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Tyndall AFB

- New access from planned US98 overpass is a welcomed improvement for base access.
- Tyndall expressed interest in the current project they are coordinating with FDOT District 3 for a pedestrian walkover.

Patrick AFB

- Patrick AFB expressed interest in the relocation of their MAF at the south gate to the main gate on A1A.
- Environmental factors like rising sea levels and beach erosion along A1A are becoming an issue.
- Patrick noted connecter designations across to A1A was good.
- Related: Canaveral AFB noted potential roadway changes and interest in SIS MAF roadway designation for SR 401 around the seaport.

MacDill AFB

- Port Tampa and connecting roadway to MacDill AFB is mission critical to MacDill as the roadway supplies all fuel for the base.
- MacDill has largest van pool customers which include the "Greater Tampa Area."
- Port representatives noted the waterways around the Port of Tampa and MacDill are important for base operations.
- Ferry service development is a must according to installation commander and would like to pursue further; possibly as a SIS MAF waterway.
- Interest in a SIS MAF freight roadway was discussed.
- Security risks and scanning creates problems with traffic congestion at peak times at main gate. MacDill is working on alleviating that problem with new technologies.
- Personnel increases are expected with two new missions coming to MacDill (fuel tankers and associated maintenance personnel) with 400 new military and families expected.

4. Recommendation

It is recommended that FDOT consider extending the SIS designated MAF to the main gate (East Gate) of Patrick AFB. It currently ends/begins from the south gate of the military base; not the main gate. Entry for all personnel and visitors is now through the main gate located approximately 2.7 miles north of Pineda Causeway on A1A.